

High Winds generally attending thunder-storms are also reported by Voluntary Observers as follows: Fort Madison, Iowa, damaging wind-storms, 3rd; Ames, Iowa, severe wind-storm, 4th; Stanly, Kansas, severe and destructive storms of wind and rain, 28th; Fallston, Md., severe wind-storm, 11th; Carthage, Ohio, 20th; Newport, Vt., strong gales, 20th; Neillsville, Wis., severe wind-storm, 17th.

Tornadoes occurred at Spiceland, Ind., blowing down trees, &c., 4th; Nottaway and Norfolk, Va., 13th. A *whirlwind*, with a storm of grasshoppers, was observed on Pike's Peak on the 11th.

VERIFICATIONS.

Probabilities.—The usual comparison of the tri-daily Probabilities, with the data contained in the three succeeding reports, gives 86.4 as the general average percentage of verifications. The percentage for each district is as follows: New England, 86.2; Middle States, 87.4; South Atlantic, 84.3; Eastern Gulf, 88.2; Western Gulf, 90.3; Lower Lakes, 87.8; Upper Lakes, 83.9; Tennessee and the Ohio valley, 83.2; Upper Mississippi valley, 88.7; Lower Missouri valley, 85.5. The percentage of verifications for each element is as follows: weather, 92.4; winds, 88; temperature, 86.1; barometer, 78.

The observer at Nashville reports that the storm of the 21st, caused dangerous floods in the small streams of the vicinity, and that warning was given by the "Farmer's Bulletin" which enabled the farmers to secure exposed grain and other property.

Cautionary Signals.—Forty-three Cautionary Signals were displayed at the regular Signal Service Stations, of which twenty-three were justified by the occurrence of dangerous winds at or near the stations. Signals were ordered for the severe storm of the 4th and 5th, on the Middle Atlantic and New England coasts, but were not ordered for the stations on Lakes Erie, Michigan and Huron.

NAVIGATION.

The stage of water.—The highest and lowest readings on the Signal Service river gauges are given in the table on chart No. III. In the Red river, at Shreveport, the highest reading, 29 ft. 5 in., is four inches below the "danger line" of the Signal Service gauge, which occurred on the 28th. Dangerous floods occurred above this point, injuring the cotton crop; and the Observer at that station reports on the 22d, that the heavy rise during the last day of the week came out of the lakes of that vicinity, while the river above was falling. The Mississippi was highest at Vicksburg on the 23d, when it was 40 ft., or 1 foot below the "danger line." The upper Mississippi declined during the entire month, and was lowest on the 31st. The Missouri was highest at Leavenworth on the 6th, and lowest on the 31st. Freshets occurred in the Upper Ohio, near Pittsburgh, in the Des Moines, near Keokuk, and in the Yazoo, near Vicksburg. The observer at Portland, Or., reports that "the river, which at the commencement of the month was in the streets of Portland, has fallen quite rapidly and is now about fifteen feet below high water mark."

WATER TEMPERATURES.

A table at the lower right-hand corner of the chart, No. II, gives the maximum and minimum temperatures of water as observed at the stations named, the third column gives the depth at which the observations were taken. The range of temperature was greatest at Duluth, 26°; Memphis, 23°; and least at Jacksonville, 3°; Mobile and Eastport, 4°. The average temperature of water on the Gulf and South Atlantic coasts was slightly above the mean temperature of the air, while on the Middle Atlantic and New England coast it was slightly below the temperature of the air.

ATMOSPHERIC ELECTRICITY.

Auroras—have been observed on the following dates—that of the 16th being generally visible in the northern sections of the country, extending from Maine to Iowa; the reports are as follows: 8th, Litchfield, Mich.; 10th, Afton, Iowa; 12th, and 15th, Duluth; 16th, Detroit, Oswego, Port Huron, Rochester, Mt. Washington, La Crosse, Springfield, Marquette, Alpena, Grand Haven, Coresco, Iowa, Gardiner, Me., Auburn, N. H., Manitowoc, Wis.; 17th, Duluth, Gardiner, Me.; 18th, Malone, St. Paul, Escanaba, Marquette, Alpena, Minneapolis, Minn.; 19th, Alpena, Gardiner, Me.; 20th, St. Paul; 21st, St. Paul; 23rd, Fort Pembina; 25th, Malone, Gardiner, Me.; 29th, Boston, Rochester, Marquette, Dodge City, Breckenridge; 30th, Rochester; 31st, Rochester, South Hartford, N. Y.

Thunder and Lightning.—Local storms, accompanied by thunder or lightning, occurred in all the districts, and in a number of cases were destructive to property and life. Electrical displays were more numerous between latitudes 36° and 46°. Chronologically arranged, the reports are as follows: 1st, Fla.,